REMARKS

Reconsideration and allowance of the above-referenced application are respectfully requested. Claim amendments are presented herein to obviate the current rejection.

Claim Objections

Claim 10 has been amended as suggested.

35 USC § 112

Claim 8 has been corrected to include the wavelength range of 2.711-2.786 μm.

35 USC § 103(a)

Claims 1, 3, 10, and 13 stand rejected under 35 USC § 103(a) as allegedly being unpatentable over Cvetkovic in view of May (a recently obtained certified translation of the Cvetkovic reference is enclosed herein). Claims 1, 2, 5, 6, 10, 13, and 17-19 stand rejected under 35 USC § 103(a) as allegedly being unpatentable over Kessler in view of May. Claims 3 and 4 stand rejected under 35 USC § 103(a) as allegedly being unpatentable over Kessler in view of May and Inman. Claims 7-9, 11, and 14-16 stand rejected under 35 USC § 103(a) as allegedly being unpatentable over Kessler in view of May and Murray. Claim 12 stands rejected under 35 USC § 103(a) as allegedly being unpatentable over May in view of Brand. Claim 20 stands rejected under 35 USC § 103(a) as allegedly being unpatentable over Kessler in view of May and Paige. These rejections are respectfully traversed.

When an application is a continuation-in-part of an earlier U.S. application, any claims in the new application not supported by the specification and claims of the parent application have an effective filing date equal to the filing date of the new application. However, any claims which are fully supported under 35 U.S.C. 112 by the earlier parent application have the effective filing date of that earlier parent application Moreover, in this case, the parent application claimed priority to a provisional application having a filing date of August 28, 2000. This filing date of the provisional applications is within one year of the May reference. As a result, the May reference is not a valid reference for an obviousness rejection for the independent claims which all find support in the provisional application.

For example, claim 1 recites: A system for detecting trace amounts of water vapor in natural gas comprising: a light source emitting light at substantially a single wavelength having a width sufficiently narrow to conduct single line spectroscopy and corresponding to a single absorption line at which water molecules absorb light at a substantially greater level than natural gas molecules; a detector configured to detect the intensity of light emitted from said light source; and electronics coupled to said detector for determining the level of water vapor in the natural gas using single line harmonic spectroscopy. This subject matter finds support in the provisional application, inter alia, on page 4, line 19 to page 5, line 11, page 6 line 3 to page 10, line 3; FIGs. 2-4; 7.

Claim 10 recites: A method for determining trace amounts of water in natural gas comprising: generating light at substantially a single wavelength having a width sufficiently narrow for conducting single line spectroscopy and corresponding to a single absorption line at

which water molecules absorb light at a substantially greater level than natural gas molecules; passing the generated light through a sample of natural gas; detecting the light passed through the natural gas; and determining the level of water within the natural gas based on the level of detected light using single line harmonic spectroscopy. This subject matter finds support in the provisional application, inter alia, on page 4, line 19 to page 5, line 11, page 6 line 3 to page 10, line 3; FIGs. 2-4; 7.

Claim 12 recites: A system for detecting trace amounts of water vapor in natural gas in a pipeline sampling shelter comprising: at least one optical gas sensor housed within said sampling shelter; a supply line coupled to the pipeline and said optical gas sensor for supplying natural gas to said optical gas sensor; and whereas said optical gas sensor comprises: a Herriott cell having two opposing mirrors; a light source emitting light at substantially a single wavelength having a width sufficiently narrow to conduct single line spectroscopy and corresponding to a single absorption line at which water molecules absorb light at a substantially greater level than natural gas molecules through said Herriott cell and configured to reflect off the mirrors to pass through the natural gas at least two times; a detector configured to detect the intensity of light emitted from said light source after the light reflects off the mirrors at least two times; and electronics coupled to said detector for determining the level of water vapor in the natural gas using single line harmonic spectroscopy. This subject matter finds support in the provisional application, inter alia, on page 4, line 19 to page 5, line 11, page 6 line 3 to page 10, line 3; FIGs. 2-7.

Claim 13 recites: A system for detecting trace amounts of water vapor in natural gas comprising: optical means for emitting light at substantially a single wavelength having a width

sufficiently narrow to conduct single line spectroscopy and corresponding to a single absorption line at which water molecules absorb light at a substantially greater level than natural gas molecules; detection means for detecting the intensity of light emitted from said light source; and determination means for determining the level of water vapor in the natural gas and the level of water vapor in the natural gas using single line harmonic spectroscopy. This subject matter finds support in the provisional application, inter alia, on page 4, line 19 to page 5, line 11, page 6 line 3 to page 10, line 3; FIGs. 2-4; 7.

Accordingly, each of claims 1, 10, 12, and 13 should be allowable.

New claim 21 recites at least one chemical sensor to detect a level of water vapor in natural gas, at least one optical sensor to detect a level of water vapor in natural gas, the optical sensor comprising: a light source emitting light at substantially a single wavelength having a width sufficiently narrow to conduct single line spectroscopy and corresponding to a single absorption line at which water molecules absorb light at a substantially greater level than natural gas molecules, a detector configured to detect the intensity of light emitted from said light source, and electronics coupled to said detector for determining the level of water vapor in the natural gas using single line harmonic spectroscopy, and a supply line delivering natural gas to the at least one chemical sensor and the at least one optical sensor for parallel measurements (for support, see, inter alia, specification page 9, lines 9-11).

None of the cited references suggest an arrangement as recited in claim 21 including, without limitation, supplying natural gas to chemical and optical sensors for parallel measurements.

Accordingly, claim 21 should be allowable.

Concluding Comments

It is believed that all of the pending claims have been addressed in this paper. However, failure to address a specific rejection, issue or comment, does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above are not intended to be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Enclosed is a $125 check for excess claim fees. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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